

Pending claims and Proposed Amendments for
Telephone Interview with Examiner Baker
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Serial No.:08/963,288

1. (Seventh Amendment) An in vitro method of enhancing the transcription of a gene in a DNA construct when the DNA construct is incorporated into the genome of a eukaryotic host cell, the method comprising:

(a) providing a DNA construct comprising a structural gene for a desired protein or polypeptide, a gene promoter upstream of and operably linked to the structural gene, and six copies of an enhancer element upstream of the promoter;

(b) transfecting the eukaryotic host cell to incorporate the DNA construct into the genome of the host cell; and

(c) exposing the DNA construct to a hormone selected from the group consisting of lactogenic hormones, somatogenic hormones and mixtures thereof;

wherein the enhancer element comprises the nucleotide sequence TTCTGAGAA, with the proviso that the nucleotide sequence does not contain the DNA sequence of nucleotide sequence SEQ ID NO:1, and wherein the enhancer element is responsive to both lactogenic hormones and somatogenic hormones.

2. The method according to claim 1, wherein the enhancer element consists essentially of the nucleotide sequence TTCTGAGAA.

5. (Sixth Amendment) An enhancer element which when used in a DNA construct for transfection of a eukaryotic host cell is responsive to hormonal stimuli, said enhancer element

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consisting essentially of the nucleotide sequence TTCTGAGAA, wherein the enhancer element is responsive to both lactogenic hormones and somatogenic hormones when used in a DNA construct [transfected] incorporated into the genome of a eukaryotic host cell.

7. The enhancer element of claim 5, wherein the enhancer element is responsive to signals generated from both growth hormone and prolactin receptors.

8. (Fifth Amendment) An expression vector comprising a structural gene encoding a desired protein or polypeptide and a promoter, wherein the vector further comprises six enhancer elements, and further wherein [at least one of] each of the enhancer elements [consists essentially of] comprises the nucleotide sequence TTCTGAGAA.

9. An expression vector according to claim 8, wherein the promoter is a thiamine kinase promoter.

10. (Sixth Amendment) The expression vector according to claim 9, wherein at least one of the enhancer [element] elements comprises [at least one copy of] the nucleotide sequence SEQ ID NO:1.

11. An isolated eukaryotic host cell containing the expression vector according to claim 8.

15. (Third Amendment) The enhancer element of claim 5, wherein the enhancer element is responsive to signals generated from both growth hormone and prolactin receptors when used in a DNA construct [transfected] incorporated into the genome of a eukaryotic host cell.

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16. An isolated eukaryotic host cell containing the expression vector according to claim 9.

17. An isolated eukaryotic host cell containing the expression vector according to claim 10.

19. (Fifth Amendment) An in vitro method of enhancing the transcription of a gene in a DNA construct, the method comprising:

(a) providing a DNA construct comprising a structural gene and a promoter upstream of the structural gene,

(b) [providing] incorporating [the DNA construct with] the nucleotide sequence consisting of TTCTGAGAA into the DNA construct upstream of the promoter;

(c) transfecting a eukaryotic host cell to incorporate the DNA construct into the genome of the host cell; and

(d) exposing the DNA construct to a hormone selected from the group consisting of lactogenic hormones, somatogenic hormones and mixtures thereof.

20. A method according to claim 19, wherein the hormone is selected from the group consisting of growth hormone, prolactin, placenta lactogen and mixtures thereof.

21. A method according to claim 20, wherein the hormone is selected from the group consisting of prolactin, placenta lactogen and mixtures thereof.

23. (Fourth Amendment) An enhancer element responsive to a hormone selected from the group consisting of lactogenic hormones, somatogenic hormones and mixtures thereof

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when the enhancer element is adapted for use [used] in a DNA construct for [transfection] incorporation into the genome of a eukaryotic host cell; wherein the enhancer element consists essentially of the nucleotide sequence TTCTGAGAA.

24. An enhancer element according to claim 23, wherein the hormone is selected from the group consisting of growth hormone, prolactin, placenta lactogen and mixtures thereof.

25. An enhancer element according to claim 24, wherein the hormone is selected from the group consisting of prolactin, placenta lactogen and mixtures thereof.

26. An enhancer element according to claim 25, wherein the enhancer element consists of the nucleotide sequence TTCTGAGAA.

27. (Fifth Amendment) An expression vector comprising a structural gene encoding a protein, a promoter, and at least one enhancer element consisting essentially of the nucleotide sequence TTCTGAGAA, wherein the enhancer element is incorporated into the expression vector separately from the structural gene [within the structural gene by transfection].

28. An expression vector according to claim 27, wherein the enhancer element consists of the nucleotide sequence TTCTGAGAA and is responsive to a hormone selected from the group consisting of growth hormone, prolactin, placenta lactogen and mixtures thereof.

29. An expression vector according to claim 27, wherein the enhancer element is responsive to a hormone selected from the group consisting of prolactin, placenta lactogen and mixtures thereof.

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30. (Fourth Amendment) A DNA construct comprising a structural gene encoding a protein, a promoter, and at least one enhancer element consisting essentially of the nucleotide sequence TTCTGAGAA, wherein the enhancer element is incorporated into the DNA construct separately from the structural gene [within the structural gene by transfection].

31. A DNA according to claim 30, comprising from one to six enhancer elements.

32. A DNA according to claim 30, wherein each enhancer element consists of the nucleotide sequence TTCTGAGAA.

39. A method according to claim 1, wherein the hormone is selected from the group consisting of growth hormone, prolactin, placenta lactogen and mixtures thereof.

40. A method according to claim 39, wherein the hormone is prolactin.

44. (Fourth Amendment) An isolated DNA construct comprising a promoter operably linked to [,] a structural gene downstream from said promoter, and six repeats of an enhancer element upstream from said promoter, wherein the enhancer element consists essentially of the sequence TTCTGAGAA.

45. An isolated DNA construct according to claim 44, wherein the enhancer consists of the sequence TTCTGAGAA.

49. An in vitro method according to claim 19, wherein the transfecting step comprises transfecting the eukaryotic cell with a plasmid comprising the DNA construct.

52. The method according to claim 2, wherein the enhancer element consists of the nucleotide sequence TTCTGAGAA.

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53. An enhancer according to claim 5, consisting of the nucleotide sequence
TTCTGAGAA.

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